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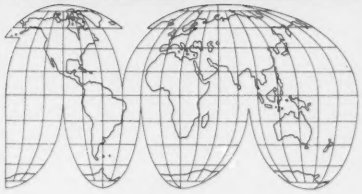

By: CI's U.K. Correspondent

Dry And Press Technique Perfected

As long ago as the 18th century, porcelain manufacturers discovered that if china clay were dried to an almost powdery state and put in a press similar to those for metal die stamping, they could manufacture perfectly shaped buttons. The clay cohered under pressure and the process was quick, easy and, therefore, cheap.

But apart from providing an endless supply of the buttons that were needed by the dozen for a Georgian lady's or gentleman's outfit, the process was limited. Only very small articles could be produced.

A similar technique was reintroduced in the 19th century in response to the enormous demand for ceramic tile. Again there were limitations; a simple flat object, square or oblong, was all that was made. Speed of production and limitation of distortion in firing were achieved but compared to the variety of shapes that could be produced by casting, molding or jiggering, the "dust process" could offer little to a tableware factory.

But the idea behind the process remained to fascinate ceramic technicians. With modern technology it should be possible to develop the principle for a wider range of uses, but the results were disappointing. Experiments showed that while output could be increased it was at the expense of quality.

However, Wedgwood ceramic experts combined with engineers over a long period put into practice the first Josiah Wedgwood's maxim: "Everything yields to experiment." At last, they have made a breakthrough.

At both the Barlaston, Stoke-on-Trent, and the hotelware factories in the English midlands, and for the tableware fine china companies, a revolutionary process is in operation. The form of "dry ceramics" that Wedgwood has developed required the construction and installation of a highly mechanized unit for the spray drying of liquid clay slip into fine granules which are then hydraulically pressed into flatware shapes.

This dry press process requires a very consistent quality of clay materials and a high, sophisticated degree of control in manufacture. The resulting flatware is of an even better quality of bone china than could be produced by traditional methods. Its effect on manufacturing costs should be equally beneficial.

Another breakthrough has been achieved in the firing of on-glaze decorations. The Drayton Kiln Co., in conjunction with Wedgwood, has developed a fast-fire kiln that reaches the required firing cycle in about one-twentieth of the time involved with traditional methods.

This new electric, and electronically controlled, kiln can maintain highly critical temperature levels with minimum expenditure of energy. Now that it is in operation, it should make a most important contribution to fuel saving.

New Medium For Figurines

Crown Staffordshire of Fenton, Staffordshire, now produces its fine art figurines in Calstonite. This new patented body consists of 50% resin, 40% calcium carbonate and the remaining 10% of an undisclosed filler. Compared to a bone china formula, production costs are not significantly lower. The advantage comes from the very fine detail that is possible. Each piece is hand-colored with a non-toxic paint that can be washed and has a matt finish.

"Mouse on a Log" is one of the enchanting wildlife subjects that introduced the Fine Art Figurine collection of Crown Staffordshire this year.

These characteristics make the medium particularly suitable for representing furry animals, and a large menagerie is being developed.

The company finds it possible to combine traditional Crown Staffordshire bone china flowers with Calstonite bases. The rough surface of a piece of tree bark can be precisely suggested by the Calstonite, while the translucency and luminous color of flowers is more suited to bone china. □